MULTIMEDIA UNIVERSITY

STUDENT IDENTIFICATION NO

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# MULTIMEDIA UNIVERSITY

# FINAL EXAMINATION

**TRIMESTER 2, 2016 SESSION**

## BAC 2624 – MANAGEMENT ACCOUNTING II

(All Sections / Groups)

7 MARCH 2017
9.00 am. – 12.00 pm.
(3 Hours)

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**INSTRUCTION TO STUDENT**

1. This Question paper consists of 9 pages (excluding cover page) with 4 Questions only.
2. Answer **ALL** Questions. All question carry equal marks. The distribution of the marks for each question is given.
3. Please write all your answers in the Answer Booklet provided

## QUESTION 1

### PART A

Teraju Engineering Bhd. produces front and rear fenders for a motorcycle manufacturer.

It has three production departments and two service departments. Overheads are allocated on the basis of direct labor hours. The management is considering changing the basis of overhead allocation from a single overhead absorption rate to departmental overhead rate. The estimated annual overheads for the five departments are as follows:

| | **Production Departments** | | | **Service** | |
|---|---|---|---|---|---|
| | **Fabrication (RM'000)** | **Phosphate (RM'000)** | **Painting (RM'000)** | **Inspection (RM'000)** | **Maintenance (RM'000)** |
| Direct materials | 6,750 | 300 | 750 | | |
| Direct labor | 1,200 | 385 | 480 | | |
| Indirect material | | | | 30 | 75 |
| Other variable overheads | 200 | 70 | 100 | 30 | 15 |
| Fixed overheads | 480 | 65 | 115 | 150 | 210 |
| **Total Depart. Expenses** | 8,630 | 820 | 1,445 | 210 | 300 |
| Maximum production capacity | 20,000 | 25,000 | 30,000 | | |
| Direct labor hours | 24,000 | 9,600 | 12,000 | | |
| Machine hours | 9,000 | 1,000 | 1,200 | | |
| Use of service departments: | | | | | |
| Maintenance – Labor hours | 630 | 273 | 147 | | |
| Inspection – Inspection hours | 1,000 | 500 | 1,500 | | |

**Required:**

a) Compute the single overhead absorption rate for the next year.

(4 marks)

b) Compute the departmental overhead absorption rates in accordance with the following:

1. The Maintenance Department costs are allocated to the production department on the basis of labor hours.
2. The Inspection Department costs are allocated on the basis of inspection hours.
3. The Fabrication Department overhead absorption rate is based on machine hours whereas the overhead rates for Phosphate and Painting Departments is based on direct labor hours.

(10 marks)

**Continued...**

## PART B

ABC Bhd. operates a simple chemical process to convert a single material into three separate items, referred to here as X, Y and Z. All three end products are separated simultaneously at a single split-off point.

Product X and Y are ready for sale immediately upon split off without further processing or any other additional costs. Product Z, however, is processed further before being sold. There is no available market price for Z at the split-off point.

The selling prices quoted here are expected to remain the same in the coming year. During 2016, the selling prices of the items and the total amounts sold were :

X – 186 tons sold for RM 1,500 per ton.

Y – 527 tons sold for RM 1,125 per ton.

Z – 736 tons sold for RM 750 per ton.

The total joint manufacturing costs for the year were RM 625,000. An additional RM 310,000 was spent to finish product Z.

There were no opening inventories of X, Y or Z at the end of the year, the following inventories of complete units were on hand:

X 180 tons.

Y 60 tons

Z 25 tons

There was no opening or closing work-in-progress.

**Required:**

Compute the cost of inventories of X, Y and Z for statement of financial position purpose and cost of goods sold for income statement purpose as at 31 March 2016, using net realizable value (NRV) method of joint cost allocation.

(11 marks)

**(TOTAL: 25 MARKS)**

**Continued...**

## QUESTION 2

### PART A

Lovely Enterprise is in the process of setting a selling price on a new component it has just designed and developed. The following cost estimates for this new components have been provided by the accounting department for a budgeted volume of 50,000 units.

| | Per Unit (RM) | Total (RM) |
|---|---|---|
| Direct materials | 50 | |
| Direct labor | 26 | |
| Variable manufacturing overhead | 20 | |
| Fixed manufacturing overhead | | 600,000 |
| Variable selling and administrative expenses | 19 | |
| Fixed selling and administrative expenses | | 400,000 |

Lovely Enterprise management requests that the total cost per unit be used in cost-plus pricing its products. On this particular product, management also directs that the target price be set to provide a 25% return on investment (ROI) on invested assets of RM1,000,000.

**Required:**

a) Compute the mark-up percentage and target selling price that will allow Lovely Enterprise to earn its desired ROI of 25% on this new equipment.

(10 marks)

b) Assuming that the volume is 40,000 units, compute the mark-up percentage and target selling price that will allow Lovely Enterprise to earn its desired ROI of 25% on this new equipment.

(5 marks)

### PART B

Comm. Devices (CD) is a division of Wawasan Communications Bhd. CD produces pagers and other personal communication devices. These devices are sold to other Wawasan divisions, as well as to other communication companies. CD was recently approached by the manager of the Puteh Communications (PC) Division regarding a request to make a special pager designed to receive signals from anywhere in the world. The PC Division has requested that CD produce 12,000 units of this special pager. The following facts are available regarding the Comm. Devices Division.

**Continued...**

| | |
|---|---|
| Selling price of standard pager | RM 95.00 |
| Variable cost of standard pager | RM 50.00 |
| Additional variable cost of special pager | RM 30.00 |

**Required:**

For each of the following independent situations, calculate the minimum transfer price, and discuss whether the internal transfer should take place or whether the PC Division should purchase the pager externally.

a) The PC Division has offered to pay the CD Division RM 105 per pager. The CD Division has no available capacity. The CD Division would have to forego sales of 10,000 pagers to existing customers in order to meet the request of the PC Division.

( 3 marks)

b) The PC Division has offered to pay the CD Division RM 150 per pager. The CD Division has no available capacity. The CD Division would have to forego sales of 16,000 pagers to existing customers in order to meet the request of the PC Division.

(4 marks)

c) The PC Division has offered to pay the CD Division RM 100 per pager. The CD Division has available capacity.

(3 marks)

**(TOTAL: 25 MARKS)**

## QUESTION 3

### PART A

The standard material cost of product M 325 is as follows:

Material X : 3 kg at RM 2.00 per kg

Material Y : 5 kg at RM 3.60 per kg

During the period, 2,000 kg of material A costing RM 4,100 and 2,400 kg of material B costing RM 9,800 were used to produce 500 units of M 325.

**Continued...**

**Required:**

Calculate the following:

1. Price variances

(2 marks)

2. Mix Variances

(3 marks)

3. Yield Variance

(3 marks)

**PART B**

Dexter Industries Sdn Bhd manufactures water-heaters for the Asian market. One of its most popular model is the TX20. It goes through a series of manufacturing processes from assembly, painting, packing and finally to finished goods.

In the packing department, conversion cost is added evenly during the process, and direct materials are added at the end of the process. Detection of spoiled units are at the end of the process. All spoiled units are disposed of at zero net disposal value. All completed work is transferred to the next department.

The data below is for the month of August 2016.The transferred in cost for August is the total cost of good units completed and transferred out in August from the assembly department.

| Packing Department | Physical Units | Transferred-in Cost (RM) | Direct Materials (RM) | Conversion Cost (RM) |
|---|---|---|---|---|
| W.I.P, beginning Inventory, August 1 | 13,500 | 35,000 | 0 | 24,600 |
| Degree of completion of beginning W.I.P | | 100% | 0% | 70% |
| Units started on August | 25,500 | | | |
| Units completed and transferred out | 28,500 | | | |
| W.I.P, ending inventory, August 31 | 8,500 | | | |
| Degree of completion of ending W.I.P | | 100% | 0% | 40% |
| Cost added in August: | | | 10,500 | 55,500 |
| Transferred in from Assembly | | 100,500 | | |
| Normal spoilage (%) of good units | 6% | | | |
| Degree of completion of normal spoilage | | | 100% | 100% |
| Degree of completion abnormal spoilage | | | 100% | 100% |

**Continued...**

**Required:**

a) Explain the terms normal spoilage and abnormal spoilage and how does the accounting for these two types of spoilage differ under process costing?

(4 marks)

b) For the packing department, use the FIFO method to:

i. Compute the equivalent units of production and the total unit cost.

(8 marks)

ii. Assign the costs to units completed and transferred out including normal spoilage, abnormal spoilage and to units in ending inventory.

(5 marks)

**(Total 25 marks)**

**QUESTION 4**

**PART A**

Metal Tech Industries Sdn Bhd plans to replace an old piece of equipment which is fast becoming increasing unreliable under the stress of daily operations. The equipment is fully depreciated and no salvage value can be realized upon its disposal.

One piece of replacement equipment under consideration would provide annual cash savings of RM 42,000 before income taxes. The equipment would cost RM 108,000 and have an estimated useful life of five years. The equipment is expected to have no salvage value at the end of five years.

Metal Tech uses the straight line depreciation method for all equipment for both accounting and tax purposes. The company is subject to 40% tax rate. The company has an after-tax required rate of return of 12 per cent.

**Required:**

a. Calculate for Metal Tech's proposed investment in new equipment, the after-tax:

i. Payback period

ii. Accounting rate of returns

iii. Net Present Value

iv. Internal Rate of Returns

*Assume that all operating revenue and expenses occur at the end of the year.*

(8 marks)

**Continued...**

b. Identify and discuss the issues that Metal Tech's management should consider when deciding which of the four (4) techniques identified in (a) should be employed to evaluate alternative capital investment projects.

(3 marks)

**PART B**

Kalmar Industries Sdn Bhd manufactures and distributes standard electrical switchboards for industrial use. Each of the switchboards takes 10 hours to manufacture and assemble.

To make its production process efficient, Kalmar has adopted a JIT production process and a backflush cost accounting system with **two (2) trigger points : -**

1. Purchase of direct materials and incurring of conversion cost.
2. Sale of finished goods.

The data tabulated below is for the month of September 2016:

| | **RM** |
|---|---|
| Purchase of Direct Materials | 4,225,000 |
| Direct materials used in production | 4,200,000 |
| Conversion cost incurred | 1,207,500 |
| Conversion cost allocated | 1,225,000 |
| Standard Direct Material Cost per unit | 120.00 |
| Standard Conversion Cost per unit | 35.00 |
| Actual Direct Material cost per unit | 120.00 |
| Actual Conversion cost per unit | 34.50 |

Direct materials purchased and conversion cost incurred are recorded at actual cost.

Kalmar manufactured and completed 35,000 finished units in September 2016 and sold 34,600 units.

**Required:**

a. Prepare summary journal entries for the month of September, including the disposition of under or over- allocated conversion cost.

(8 marks)

**Continued...**

b. Post the entries in (a) to T-accounts for inventory control, conversion cost control, conversion cost allocated, and cost of goods sold.

(2 marks)

c. Explain the major difference between backflush accounting and conventional costing.

(4 marks)

**(Total 25 marks)**

**PRESENT VALUE TABLES.**

**Table 2 (Place a clip on this page for your reference.)**

Present Value of $1.00

$P = \frac{S}{(1 + r)^n}$. In this table $S$ = $1.00.

| Periods | 2% | 4% | 6% | 8% | 10% | 12% | 14% | 16% | 18% |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.980 | 0.962 | 0.943 | 0.926 | 0.909 | 0.893 | 0.877 | 0.862 | 0.847 |
| 2 | 0.961 | 0.925 | 0.890 | 0.857 | 0.826 | 0.797 | 0.769 | 0.743 | 0.718 |
| 3 | 0.942 | 0.889 | 0.840 | 0.794 | 0.751 | 0.712 | 0.675 | 0.641 | 0.609 |
| 4 | 0.924 | 0.855 | 0.792 | 0.735 | 0.683 | 0.636 | 0.592 | 0.552 | 0.516 |
| 5 | 0.906 | 0.822 | 0.747 | 0.681 | 0.621 | 0.567 | 0.519 | 0.476 | 0.437 |
| 6 | 0.888 | 0.790 | 0.705 | 0.630 | 0.564 | 0.507 | 0.456 | 0.410 | 0.370 |
| 7 | 0.871 | 0.760 | 0.665 | 0.583 | 0.513 | 0.452 | 0.400 | 0.354 | 0.314 |
| 8 | 0.853 | 0.731 | 0.627 | 0.540 | 0.467 | 0.404 | 0.351 | 0.305 | 0.266 |
| 9 | 0.837 | 0.703 | 0.592 | 0.500 | 0.424 | 0.361 | 0.308 | 0.263 | 0.225 |
| 10 | 0.820 | 0.676 | 0.558 | 0.463 | 0.386 | 0.322 | 0.270 | 0.227 | 0.191 |

**Table 4 (Place a clip on this page for your reference.)**

Present Value of Annuity $1.00 in Arrears*

$P_n = \frac{1}{r}\left[1 - \frac{1}{(1 + r)^n}\right]$

| Periods | 2% | 4% | 6% | 8% | 10% | 12% | 14% | 16% | 18% |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.980 | 0.962 | 0.943 | 0.926 | 0.909 | 0.893 | 0.877 | 0.862 | 0.847 |
| 2 | 1.942 | 1.886 | 1.833 | 1.783 | 1.736 | 1.690 | 1.647 | 1.605 | 1.566 |
| 3 | 2.884 | 2.775 | 2.673 | 2.577 | 2.487 | 2.402 | 2.322 | 2.246 | 2.174 |
| 4 | 3.808 | 3.630 | 3.465 | 3.312 | 3.170 | 3.037 | 2.914 | 2.798 | 2.690 |
| 5 | 4.713 | 4.452 | 4.212 | 3.993 | 3.791 | 3.605 | 3.433 | 3.274 | 3.127 |
| 6 | 5.601 | 5.242 | 4.917 | 4.623 | 4.355 | 4.111 | 3.889 | 3.685 | 3.498 |
| 7 | 6.472 | 6.002 | 5.582 | 5.206 | 4.868 | 4.564 | 4.288 | 4.039 | 3.812 |
| 8 | 7.325 | 6.733 | 6.210 | 5.747 | 5.335 | 4.968 | 4.639 | 4.344 | 4.078 |
| 9 | 8.162 | 7.435 | 6.802 | 6.247 | 5.759 | 5.328 | 4.946 | 4.607 | 4.303 |
| 10 | 8.983 | 8.111 | 7.360 | 6.710 | 6.145 | 5.650 | 5.216 | 4.833 | 4.494 |

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